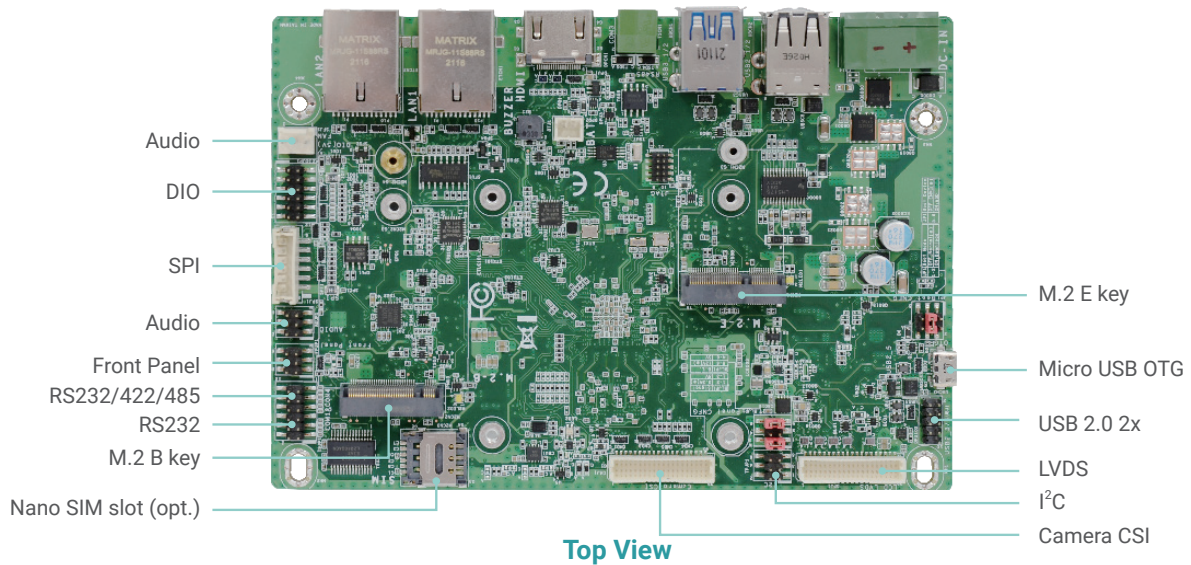
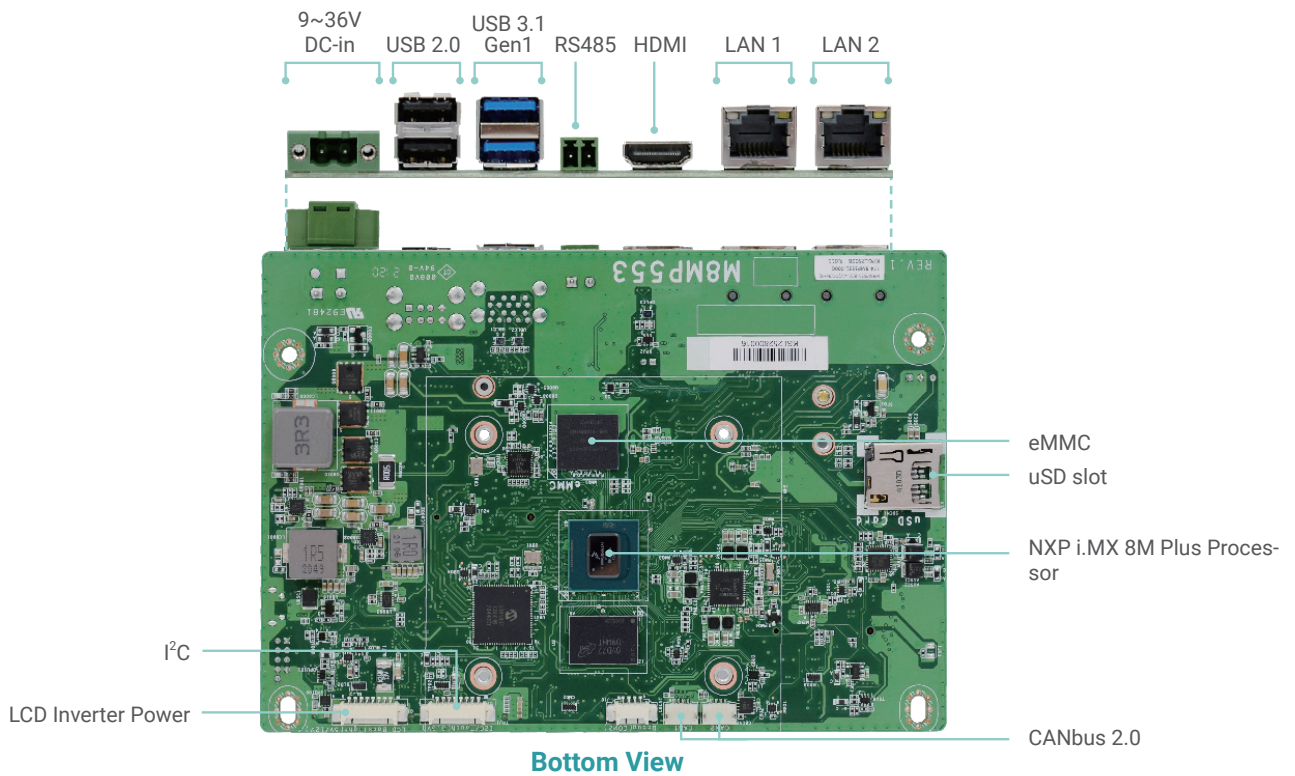


# M8MP553

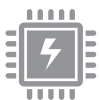
ARM



NXP® i.MX 8M Plus Series  
3.5" SBC



## KEY FEATURES



### NXP i.MX8M plus

30% performance enhancement



### Wide Voltage

Support 9~36VDC



### 2 GbE LAN

For automation application



### CAN bus

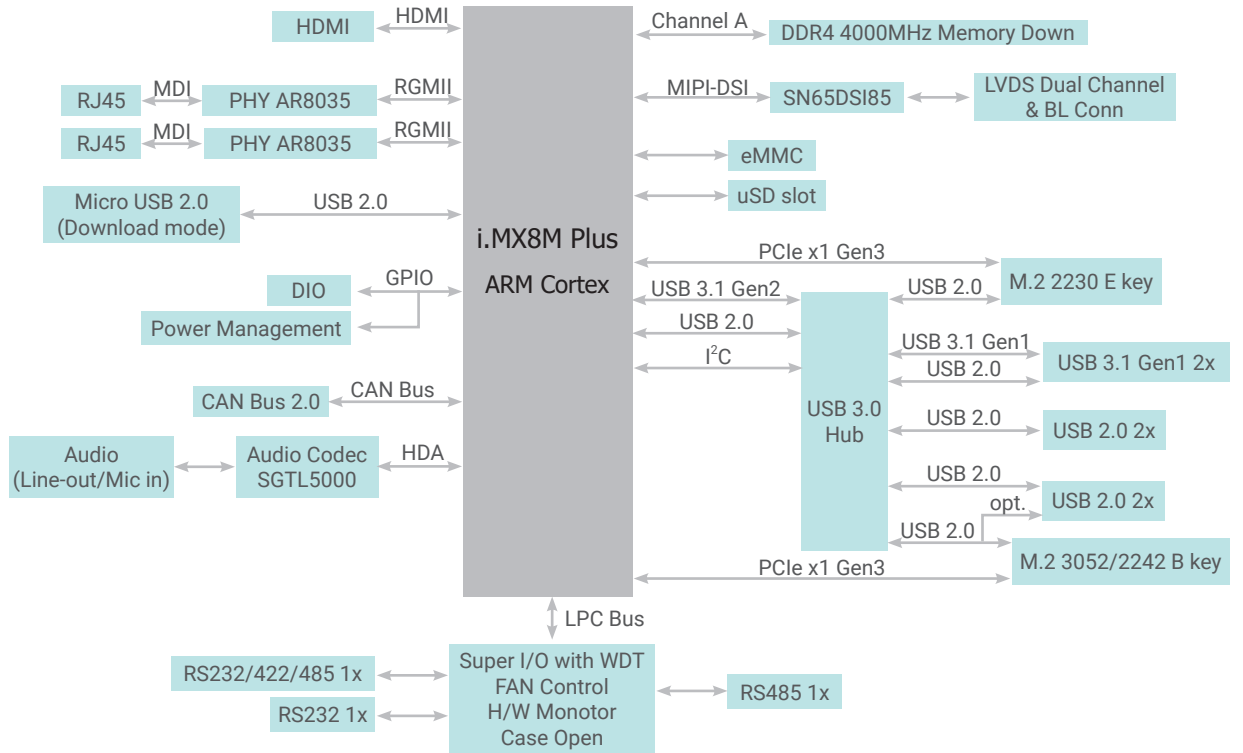
For automation equipments integration



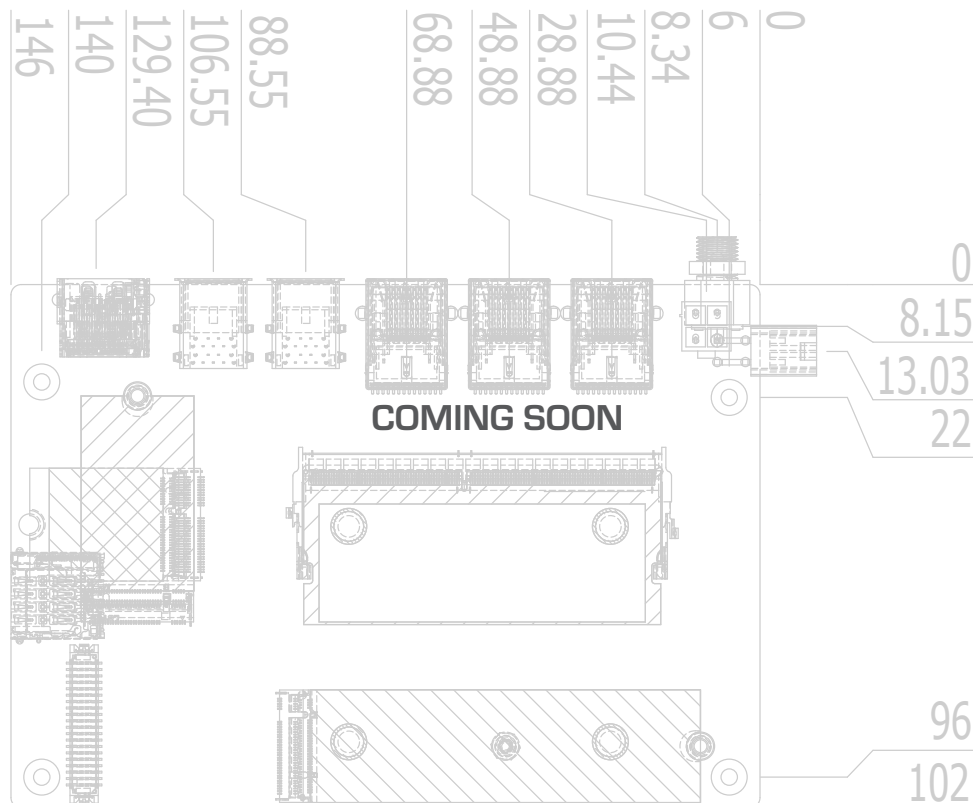
### M.2 2230/3052

1 M.2 B key for PCIe & SATA expansion

## BLOCK DIAGRAM



## MECHANICAL DRAWING



## SPECIFICATION

|                |                   |                                                                                                                                                                                                                                                                                                                                                           |                                        |
|----------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| System         | Processor         | i.MX 8M plus applications processors<br>MIMX8ML6DVNLZAB (Commercial), Quad 1.8GHz, VPU/ISP, 0~90°C<br>MIMX8ML3DVNLZAB (Commercial), Dual 1.8GHz, VPU/ML/ISP/CAN FD, 0~90°C<br>MIMX8ML6CVNKZAB (Industrial), Quad 1.6GHz, VPU/ISP/CAN FD, -40~105°C (Coming soon)<br>MIMX8ML3CVNKZAB (Industrial), Dual 1.6GHz, VPU/ML/ISP/CAN FD, -40~105°C (Coming soon) |                                        |
|                | Memory            | 2GB/4GB LPDDR4 Memory Down                                                                                                                                                                                                                                                                                                                                |                                        |
| Graphics       | Controller        | GC7000UL                                                                                                                                                                                                                                                                                                                                                  |                                        |
|                | Feature           | HW Decode: 1080p60 H.265,H.264, VP9, VP8<br>HW Endcode: 1080p60 H.265,H.264                                                                                                                                                                                                                                                                               |                                        |
|                | Display           | 1 x HDMI                                                                                                                                                                                                                                                                                                                                                  | HDMI: resolution up to 1920x1080@60Hz  |
|                |                   | 1 x LVDS                                                                                                                                                                                                                                                                                                                                                  | LVDS: resolution up to 1920x1200 @60Hz |
|                | Dual Display      | LVDS + HDMI                                                                                                                                                                                                                                                                                                                                               | Andriod:support single output          |
| Expension      | Interface         | 1 x M.2 B key 3052/2242 (USB 3.1 Gen2/USB 2.0/PCIe x1)<br>1 x M.2 E key 2230 (PCIe x1/USB 2.0)<br>1 x Nano SIM slot (opt.)                                                                                                                                                                                                                                |                                        |
| Audio          | Audio Codec       | Audio codec SGT5000                                                                                                                                                                                                                                                                                                                                       |                                        |
| Ethernet       | Phy               | AR8035                                                                                                                                                                                                                                                                                                                                                    |                                        |
| Rear I/O       | Ethernet          | 2 x GbE (RJ-45)                                                                                                                                                                                                                                                                                                                                           |                                        |
|                | Serial            | 1 x RS485 (2-wire)                                                                                                                                                                                                                                                                                                                                        |                                        |
|                | USB               | 2 x USB 3.1 Gen1<br>2 x USB 2.0                                                                                                                                                                                                                                                                                                                           |                                        |
|                | Display           | 1 x HDMI                                                                                                                                                                                                                                                                                                                                                  |                                        |
| Internal I/O   | Serial            | 1 x RS232<br>1 x RS232/422/485 (2.0mm pitch)                                                                                                                                                                                                                                                                                                              |                                        |
|                | USB               | 2 x USB 2.0 (2.00mm pitch, the 2nd USB is opt. from M.2 3052)<br>1 x Micro USB OTG                                                                                                                                                                                                                                                                        |                                        |
|                | Display           | 1 x LVDS LCD Panel connector<br>1 x LCD/Intverter Power                                                                                                                                                                                                                                                                                                   |                                        |
|                | Audio             | 1 x Audio (Line-out/Mic-in)                                                                                                                                                                                                                                                                                                                               |                                        |
|                | SD                | 1 x uSD card                                                                                                                                                                                                                                                                                                                                              |                                        |
|                | DIO               | 1 x 8-bit DIO                                                                                                                                                                                                                                                                                                                                             |                                        |
|                | I <sup>2</sup> C  | 1 x I <sup>2</sup> C<br>1 x PWM                                                                                                                                                                                                                                                                                                                           |                                        |
|                | CANBus            | 2 x CAN bus 2.0b on Industrial CPU sku                                                                                                                                                                                                                                                                                                                    |                                        |
| Storage        | eMMC              | 1 x eMMC 5.1 with default 16GB (up to 64GB)                                                                                                                                                                                                                                                                                                               |                                        |
| Watchdog Timer | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds                                                                                                                                                                                                                                                                                             |                                        |
| Power          | Type              | Wide Range 9~36VDC                                                                                                                                                                                                                                                                                                                                        |                                        |
|                | Connector         | 2-pole terminal block (default)<br>Co-lay 4-pin vertical power connector                                                                                                                                                                                                                                                                                  |                                        |
|                | Consumption       | TBD                                                                                                                                                                                                                                                                                                                                                       |                                        |
|                | RTC Battery       | CR2032 Coin Cell                                                                                                                                                                                                                                                                                                                                          |                                        |
| OS Support     | Microsoft/Linux   | Linux Yocto 3.0 (default)<br>Android 10                                                                                                                                                                                                                                                                                                                   |                                        |
| Environment    | Temperature       | Operating: -5 to 65°C, -30 to 80 °C                                                                                                                                                                                                                                                                                                                       | Storage: -40 to 85°C                   |
|                | Humidity          | Operating: 5 to 90% RH                                                                                                                                                                                                                                                                                                                                    | Storage: 5 to 90% RH                   |
|                | MTBF              | TBD                                                                                                                                                                                                                                                                                                                                                       |                                        |

## ORDERING INFORMATION

| Model Name        | P/N              | Processor  | Memory | eMMC  | GbE | RS-232 | RS-232/422/485 | USB 3.1 Gen1 | USB 2.0 | Power   | Thermal  | Temp.       |
|-------------------|------------------|------------|--------|-------|-----|--------|----------------|--------------|---------|---------|----------|-------------|
| M8MP553-BCC-41QDC | 770-8MP5531-000G | Quad core  | 4 GB   | 16 GB | 2   | 1      | 1              | 2            | 4       | 9~36VDC | Fan-less | -5 to 65°C  |
| M8MP553-BCC-21DLC | 770-8MP5531-100G | Du-al core | 2 GB   | 16 GB | 2   | 1      | 1              | 2            | 4       | 9~36VDC | Fan-less | -5 to 65°C  |
| M8MP553-ECC-41QDI | 770-8MP5531-200G | Quad core  | 4 GB   | 16 GB | 2   | 1      | 1              | 2            | 4       | 9~36VDC | Fanless  | -30 to 80°C |
| M8MP553-ECC-21DLI | 770-8MP5531-300G | Dual core  | 2 GB   | 16 GB | 2   | 1      | 1              | 2            | 4       | 9~36VDC | Fanless  | -30 to 80°C |

\*770-8MP5531-200G, 770-8MP5531-300G coming soon.

## PACKING LIST

|                                   |                 |
|-----------------------------------|-----------------|
| 1 M8MP553 board                   |                 |
| 1 Terminal block for RS485 (COM3) | 342-361021-000G |
| 1 Heatsink (Height: 21mm)         | A71-008168-000G |

## OPTIONAL ITEMS

|                                        |                 |
|----------------------------------------|-----------------|
| 2 pole terminal to DC jack cable       | A81-004013-000G |
| Power adapter (60W, 12V, DC Jack)      | 671-106012-000G |
| USB 2.0 cable (Length: 200mm)          | A81-001032-016G |
| COM port cable (Length: 250mm, COM1/4) | A81-009595-016G |
| Audio (Length: 300mm)                  | A81-022031-016G |
| Heat spreader (Height: 11mm)           | TBD             |